Sports Nutrition
Sports Medicine Systems, Inc.
Nancy Clark, MS, RD

FLUIDS, DEHYDRATION and THIRST QUENCHERS

Drinking adequate fluids is essential for top athletic performance. Body fluids have important jobs: fluid in the blood transports glucose to the working muscles and carries away lactic acid; urine eliminates waste products; sweat dissipates heat via the skin. If you sweat heavily and lose too much fluid, you reduce your ability to provide adequate circulation to both the muscles and body surface. This not only hurts your performance but also can endanger your health.

Unfortunately, many people who exercise pay too little attention to including adequate fluids in their sports diet. They suffer needless fatigue and perform sub-optimally. The following tips may help keep you well hydrated.

***Prevent* dehydration during training.**

On a daily basis, make sure that you drink adequate fluids. You can easily determine if you have had enough to drink by monitoring the amount and color of your urine.

--You should urinate frequently throughout the day.

--The urine should be a clear, lemonade color, and in significant quantity.

If the urine is dark, concentrated and scanty, you need to consume more water, juice and other fluids.
(Note: If you take vitamin pills, your urine may be dark colored. Monitor hydration by the *quantity* of urine and *darkness* of color.)

- To increase awareness of sweat losses during exercise, weigh yourself before and after a hard workout. Each pound lost represents one pound (two cups) of sweat. Replace it accordingly -- and try to lose less than 2% of your weight!
- You don't have to drink on/y water for fluids. Juice, sports drinks, soft drinks and watery foods such as yogurt, oranges, lettuce, and melon all have a high water content that contributes to your overall fluid balance.
- Be aware that coffee, tea, beer and alcohol have a dehydrating effect; they cause you to urinate and lose fluids. Hence, if you choose to drink beverages with alcohol or caffeine, do so after having quenched your thirst with other fluids. I.e., first drink two or three large glasses of water, then have a beer if desired.

***Prior to* hard endurance exercise:**

1. The day before, drink extra water, juice and other fluids to be sure your body is well hydrated.
2. The morning of the event, drink 2 to 3 large glasses of fluids up to two hours prior to the start. Because the kidneys require 45-90 minutes to process liquids, two hours allows you time to empty your bladder before the start of the event.
3. Five or ten minutes before start-time, '~tank up" on another 1-2 cups of water or sports drink.

***During* hard exercise:**

1. Drink as much water, sports drinks or diluted juice as you can tolerate, ideally 8-10 ounces every 20 minutes. Because you may be sweating off three times this amount, you may still have a fluid deficit.
2. *Prevent* dehydration by taking adequate fluids early in the event. Drink *before* you get thirsty! By the time your brain signals thirst, you will have lost 1% of your body weight (1.5 lbs or 3 cups of sweat for a 150 lb. person). By 2% dehydration (3 lbs. of sweat loss), you may have reduced your work capacity by 10-15%.

***After* exercise:**

1. Drink to quench your thirst, and then drink even more. Because the thirst mechanism inadequately indicates whether or not you've taken enough fluids, you'll have to tell by monitoring your urine. If several hours pass without your having to urinate, you are still dehydrated. Keep drinking...
2. Juices (such as orange, apple and cranberry) replace not only fluid but also more carbohydrates than you'd get from a sports drink. Drinking 16-24 ounces within one hour post-exercise can help you quickly recover from a hard workout.

Water vs. Sports Drinks: For the recreational athlete, water is always appropriate. Water is convenient, familiar and satisfies your body's needs. For endurance athletes or those expending large amounts of energy for more than 60 to 90 minutes, a sports drink, dilute juice or soft drink that contains 50-80 calories *I* 8 ozs. offers an energy advantage during exercise that can enhance stamina and endurance. Experiment *during training* to learn which fluids settle best in your stomach.

Electrolyte Replacement: Sweat contains not only water but also small amounts of sodium, potassium and other electrolytes that keep your body in fluid-balance. You lose small amounts of these electrolytes when you sweat, but you do not deplete yourself except possibly under extreme circumstances. Hence, you can easily replace the losses after exercise by eating fruit, juice, yogurt and other wholesome foods. Commercial fluid replacement drinks are generally weak sources of electrolytes compared to natural fruits, juices and recovery foods. Water plus wholesome foods do a great recovery job!